PROGRAM-RELATED FATALITIES

MICHIGAN 2003

Management Information Systems Section
Management and Technical Services Division
Michigan Department of Labor
& Economic Growth
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INTRODUCTION

The latest National Census of Fatal Occupational Injuries data shows that 5,559 fatal work injuries occurred in 2003. In Michigan there were 51 Program-Related fatalities reported in 2003 or less than 1.0% of the national total. Program-Related fatalities in Michigan are recorded and tabulated by the Management Information Systems Section, Michigan Occupational Safety and Health Administration (MIOSHA), Michigan Department of Labor and Economic Growth. The sources of data include the Basic Report of Injury - Form 100 and telephone reports of fatalities to MIOSHA. The conditions necessary for a fatal case to be Program-Related are given in the NOTE ON PROGRAM RELATED CASES (see Page 8).

Program-Related fatalities have been recorded since 1975 in Michigan. A high of 115 Program-Related fatalities occurred in 1977. There was a gradual decrease until 1983 when 52 Program-Related fatalities were recorded. Program-Related fatalities increased from 52 in 1983 to 74 for 1986. A two-year decline to 64 cases in 1988 was recorded before an increase to 76 Program-Related fatalities in 1989. Between 1989 and 1993 the number of fatalities recorded dropped to 51, showing a reduction of about 54 percent from the number of cases in 1978. There were 61 Program-Related fatalities recorded during 1994, this decreased to 48 Program-Related fatalities in 1995 and decreased again to 46 Program-Related fatalities in 1996. This is 58.6 percent lower than the 111 recorded in 1978 and the lowest number of Program-Related fatalities recorded in over 20 years. The 76 program-related fatalities recorded in 1997 is 31.6% lower than the 1978 figure of 111. The number of fatalities decreased from 76 in 1997 to 68 in 1998 before increasing to 87 in 1999. Fifty-nine Program-Related fatalities were recorded in 2000, 58 were recorded in 2001, and the downward trend continued in 2002 with 47 Program-Related fatalities. The number of Program-Related fatalities recorded in 2003 was 51.

The intention of this report is to contribute to a further understanding of Program-Related fatality profiles and hence, to the continued effort of preventing and reducing fatal cases. Information presented in this report may be of interest to employers and employees, in general, and safety professionals and consultants, in particular. Any

inquiries regarding this report may be addressed to:

Management Information Systems Section
Management and Technical Services Division
Michigan Department of Labor & Economic Growth
7150 Harris Drive, Box 30643
Lansing, Michigan 48909-8143
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PROGRAM-RELATED FATALITIES, MICHIGAN 2003

This Program-Related fatality information for Michigan was compiled from the "Employers Basic Report of Injury", Workers Disability Form 100's and from direct telephone reports of fatalities to MIOSHA. Only fatal cases that are Program-Related, as defined by MIOSHA, Michigan Department of Labor and Economic Growth, are compiled. Therefore, the data does not include fatalities resulting from heart attacks, homicides, suicides, highway personal motor vehicle trips and aircraft accidents. The figures are shown in **Tables 1 through 12**.

A definition of Program-Related cases can be found on Page 8 of this report. Program-Related fatality trends for 1978 through 2003 are shown in **Table 1**.

This report is an overview of how the fatalities were distributed across industry groups; occupations; sources of injury or illness; events or exposures; parts of body affected; and nature of injury or illness. Frequencies of fatalities by age group, gender, month of occurrence and counties of occurrence are also provided.

Table 2 shows the distribution of Program-Related fatalities by industry groups in 2003. Beginning in 2003, the industry group category is based on the Northern American Industry Classification System (NAICS), which groups establishments into industries based on the activities in which they are primarily engaged. Prior to 2003, the industry group category was based on the Standard Industrial Classification (SIC) of the employer. This was determined by the job being performed by the employee at the time of the accident. Due to the substantial differences between the current and previous system, the results by industry in 2003 constitute a break in series and users are advised against

making comparisons between the 2003 industry category and the results for previous years.

During 2003, the largest numbers of Program-Related fatalities were reported in the Construction industry.

Program-Related fatalities by occupation are shown in **Table 3**. The most affected occupation group in 2003 with 24 fatalities was Construction and Extraction followed by Production with a total of 9 fatalities. Transportation and Moving Material reported 8 fatalities, Building and Grounds Cleaning and Maintenance reported 4; and Installation, Maintenance and Repair reported 2 Program-Related fatalities for the 2003 year. All other industry groups reported 1 or zero fatalities during this year.

The sources of injury or illness leading to Program-Related fatalities during 2003 are listed in **Table 4**. Floors, Walkways, Ground Surfaces reported 8 fatalities, Highway Vehicle Motorized reported 6, Material Handling Machinery reported 5 and Chemicals and Chemical Products and Containers both reported 4. Combined, these sources accounted for 27 cases or about 53 percent of the sources of fatal injury or illness.

The number of victims that were Struck by an Object during 2003 was twelve. Nine of the fatalities were the result of coming in Contact with Electric Current, and Fall to Lower Level accounted for eight fatalities. **Table 5** shows Program-Related fatalities by event or exposure.

Parts of the body affected by fatal injury or illness show that Body Systems and Multiple Body Parts, together accounted for 63 percent of the fatalities. Eighteen fatal injuries or illnesses were specified for Body Systems, Multiple Body Parts recorded 14 cases and 9 cases recorded Cranial Region, including skull, as the part of body affected by fatal injuries and illnesses during 2003. Data is shown in **Table 6**.

The nature of the fatal injuries or illnesses reported Multiple Traumatic Injuries and Disorders (10), Intracranial Injuries and Electrocutions, Electric Shocks (both with 9), Internal Injuries to Organs and Blood Vessels of the Trunk (7), and Asphyxiations/Strangulations, Suffocations (6). A significant number, approximately 20 percent, of the fatalities that occurred in 2003, were the result of Multiple Traumatic Injuries to workers. Details of the nature of injuries and illnesses causing Program-Related fatalities are given in **Table 7**.

Employees between the ages of 31 and 45 suffered about 45 percent of the fatal injuries and illnesses. There were 3 fatalities to workers under the age of 21. The age group of 21-25 suffered 8 fatalities. The age groups of 46-50 suffered 5 fatalities. The age group of 41-45 recorded the highest number for any of the five-year age categories with 12. Of

the 51 victims, all 51 were male employees. The distribution of Program-Related fatalities by age and gender are shown in **Tables 8 and 9**.

In 2003, January and August recorded the highest number of fatalities (7). Five Program-Related fatalities were reported during the months of July, September, October and November, while the month of June recorded 4 fatalities. The months of February, March and May recorded 3 fatalities each. The months of April and December both showed 2 fatalities. Details are shown in **Table 10**.

Program-Related fatalities by industry group and day of the week are shown in **Table 11.** The highest number of fatalities by day of the week shows Wednesday with 15, followed by Monday and Tuesday showing 9 each; Thursday recorded 7; Saturday showed 6, and Friday reported 4 Program-Related fatalities. There was 1 fatality recorded on Sunday in 2003.

The distribution of fatality cases by counties shows that 22 counties reported Program-Related fatalities in 2003. Wayne County reported the largest (13) and Ingham County showed the second largest number of cases with 7. Oakland County reported 6 fatalities. A complete distribution of fatality cases by county of occurrence is shown in **Table 12**.

Even though Michigan's 2003 total Program-Related fatality cases are far less than the thousands of cases reported nationwide, the consequences of these on-the-job deaths in terms of human suffering, lost workdays, decreased production, and increased compensation rates are all too significant to be overlooked.

In order for Michigan to reduce the number of on-the-job fatality cases, it requires a conscious effort on the part of employers to recognize and comply with MIOSHA standards, develop and implement safe working procedures and assure that employees observe and practice these procedures. The MIOSHA program offers on-site consultation and consultation, education and training opportunities to employers and employees alike to help them achieve this goal.

The Program-Related fatality data for Michigan are presented in the following series of **Tables 1 through 12**. A brief description of how the Program-Related fatalities occurred is also provided following the series of tables. The

descriptions are listed by industry groups based on the North American Industry Classification System, which is based on the activity in which the establishment is primary engaged. The information can be very useful to safety professionals, in particular, for use in prevention planning.

NOTE ON PROGRAM-RELATED CASES

A fatality is recorded as Program-Related if it appears to be related to one or more of the following conditions:

1. The incident was found to have resulted from violations of MIOSHA safety and health standards or the general duty clause

2. The incident was considered to be the result of a failure to follow a good safety and health practice that would be the subject of a safety and health recommendation

3. The information describing the incident is insufficient to make a clear distinction between a "Program-Related" and "non-Program-Related" incident, but the type and nature of the injury indicates that there is a high probability that the injury was the result of a failure to adhere to one or more MIOSHA standards, the general duty clause, or good safety and health practice

Any further inquiries may be addressed to:

MIOSHA
MANAGEMENT INFORMATION SYSTEMS SECTION
MANAGEMENT AND TECHNICAL SERVICES DIVISION
MICHIGAN DEPARTMENT OF LABOR & ECONOMIC GROWTH
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LANSING, MICHIGAN 48909-8143
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TABLE 1

PROGRAM-RELATED FATALITY TRENDS
MICHIGAN 1978 - 2003

YEAR	CASES	PERCENT CHANGE
1978	111	------
1979	89	-19.8
1980	73	-18.0
1981	65	-11.0
1982	67	+ 3.1
1983	52	-22.4
1984	59	+13.5
1985	67	+13.6
1986	74	+10.4
1987	73	- 1.4
1988	64	-12.3
1989	76	+18.8
1990	72	- 5.3
1991	60	-16.7
1992	61	+1.7
1993	51	-16.4
1994	61	+19.6
1995	48	- 21.3
1996	46	- 4.2
1997	76	+65.2
1998	68	-10.5
1999	87	+27.9
2000	59	-32.2
2001	58	- 1.7
2002	47	-19.0
2003	51	+9.2

Source: MIOSHA/MISS/MTSD/ Michigan Department of Labor & Economic Growth

TABLE 2

PROGRAM-RELATED FATALITIES
BY INDUSTRY GROUPS
MICHIGAN 2003

INDUSTRY GROUP	TOTAL
AGRICULTURE, FORESTRY, FISHING AND HUNTING	2
MINING	2
UTILITIES	1
CONSTRUCTION	27
MANUFACTURING	8
WHOLESALE TRADE	0
RETAIL TRADE	0
TRANSPORTATION AND WAREHOUSING	4
INFORMATION	0
FINANCE AND INSURANCE	0
REAL ESTATE AND RENTAL AND LEASING	0
PROFESSIONAL, SCIENTIFIC AND TECHNICAL SERVICES	1
MANAGEMENT OF COMPANIES AND ENTERPRISES	0
ADMINISTRATIVE AND SUPPORT AND WASTE MANAGEMENT AND REMEDIATION SERVICES	2
EDUCATIONAL SERVICES	1
HEALTH CARE AND SOCIAL ASSISTANCE	0
ARTS, ENTERTAINMENT AND RECREATION	2
ACCOMMODATION AND FOOD SERVICES	0
OTHER SERVICES (EXCEPT PUBLIC ADMINISTRATION)	1
PUBLIC ADMINISTRATION	0
TOTAL	**51**

Note: Beginning in 2003, the industry group category is based on the Northern American Industrial Classification System (NAICS), which is based on the activities in which the establishments are primarily engaged.

Source: MIOSHA/ MISS/MTSD/ Michigan Department of Labor & Economic Growth

TABLE 3

PROGRAM-RELATED FATALITIES
BY OCCUPATION
MICHIGAN 2003

OCCUPATION	NUMBER OF CASES 2003
Architecture and Engineering	1
Building and Grounds Cleaning and Maintenance	4
Sales and Related Occupations	1
Office and Administrative Support	1
Farming, Fishing, and Forestry	1
Construction and Extraction	24
Installation, Maintenance and Repair	2
Production	9
Transportation and Material Moving	8
TOTAL	**51**

Note: Occupations are based on the Standard Occupational Classification (SOC) coding manual.

Source: MIOSHA/MISS/MTSD/Michigan Department of Labor & Economic Growth

TABLE 4

PROGRAM-RELATED FATALITIES BY
SOURCE OF INJURY OR ILLNESS MICHIGAN 2003

SOURCE OF INJURY OR ILLNESS	NUMBER OF CASES 2003
Chemicals and Chemical Products	4
Containers	4
Furniture and Fixtures	1
Agricultural and Garden Machinery	1
Construction, Logging and Mining Machinery	2
Heating, Cooling and Cleaning Machinery and Appliances	1
Material Handling Machinery	5
Metal, Woodworking and Special Machinery	2
Parts and Materials	3
Persons, Plants, Animals and Minerals	3
Floors, Walkways, Ground Surfaces	8
Other Structural Elements	3
Structures	1
Ladders	1
Highway Vehicle, Motorized	6
Plant and Industrial Powered Vehicles, Tractors	3
Rail Vehicle	1

Atmospheric and Environmental Conditions	1
Scrap, Waste, Debris	1
TOTAL	**51**

Source: MIOSHA/ MISS/MTSD/Michigan Department of Labor & Economic Growth

TABLE 5

PROGRAM-RELATED FATALITIES
BY EVENT OR EXPOSURE
MICHIGAN 2003

EVENT OR EXPOSURE	**NUMBER OF CASES 2003**
STRUCK BY OBJECT	12
CAUGHT IN OR COMPRESSED BY EQUIPMENT OR OBJECTS	4
CAUGHT IN OR CRUSHED IN COLLAPSING MATERIALS	5
FALL TO LOWER LEVEL	8
CONTACT WITH ELECTRIC CURRENT	9
EXPOSURE TO CAUSTIC, NOXIOUS, OR ALLERGENIC SUBSTANCES	3
OXYGEN DEFICIENCY, N.E.C.	1
HIGHWAY ACCIDENT	1
NON-HIGHWAY ACCIDENT, EXCEPT RAIL, AIR, WATER	1
PEDESTRIAN, NONPASSENGER STRUCK BY VEHICLE, MOBILE EQUIPMENT	4
FIRE	1
EXPLOSION	2

TOTAL	**51**

Source: MIOSHA/ MISS/MTSD/Michigan Department of Labor & Economic Growth

TABLE 6

PROGRAM-RELATED FATALITIES
BY PARTS OF BODY AFFECTED
MICHIGAN 2003

PARTS OF BODY AFFECTED	**NUMBER OF CASES 2003**
CRANIAL REGION, INCLUDING SKULL	9
NECK, INCLUDING THROAT	2
CHEST, INCLUDING RIBS, INTERNAL ORGANS	2
ABDOMEN	1
MULTIPLE TRUNK LOCATIONS	4
LEG(S)	1
BODY SYSTEMS	18
MULTIPLE BODY PARTS	14
TOTAL	**51**

Source: MIOSHA/MISS/MTSD/ Michigan Department of Labor & Economic Growth

TABLE 7

PROGRAM-RELATED FATALITIES
BY NATURE OF INJURY OR ILLNESS
MICHIGAN 2003

NATURE OF INJURY OR ILLNESS	NUMBER OF CASES 2003
FRACTURES	1
MULTIPLE TRAUMATIC INJURIES TO BONES, NERVES, SPINAL CORD	1
PUNCTURES, EXCEPT BITES	1
HEAT BURNS, SCALDS	1
INTRACRANIAL INJURIES	9
MULTIPLE TRAUMATIC INJURIES AND DISORDERS	10
INTRACRANIAL INJURIES AND INJURIES TO INTERNAL ORGANS	3
ASPHYXIATIONS/STRANGULATIONS, SUFFOCATIONS	6
ELECTROCUTIONS, ELECTRIC SHOCKS	9
INTERNAL INJURIES TO ORGANS AND BLOOD VESSELS OF THE TRUNK	7

OTHER POISONINGS AND TOXIC EFFECTS	3
TOTAL	**51**

Source: MIOSHA/MISS/MTSD/ Michigan Department of Labor & Economic Growth

TABLE 8

PROGRAM-RELATED FATALITIES BY AGE
MICHIGAN 2003

AGE	**NUMBER OF CASES 2003**
20 and Under	3
21 - 25	8
26 - 30	3
31 - 35	5
36 - 40	6
41 - 45	12
46 - 50	5
51 - 55	4
56 - 60	3
61 and Over	2
TOTAL	**51**

TABLE 9

PROGRAM-RELATED FATALITIES BY GENDER
MICHIGAN 2003

GENDER	NUMBER OF CASES 2003
MALE	51
FEMALE	0
TOTAL	**51**

Source: MIOSHA/MISS/MTSD/ Michigan Department of Labor & Economic Growth

TABLE 10

PROGRAM-RELATED FATALITIES
BY MONTH OF OCCURRENCE
MICHIGAN 2003

MONTH OF OCCURRENCE	NUMBER OF CASES 2003
JANUARY	7
FEBRUARY	3
MARCH	3
APRIL	2
MAY	3
JUNE	4
JULY	5
AUGUST	7
SEPTEMBER	5
OCTOBER	5
NOVEMBER	5
DECEMBER	2
TOTAL	**51**

Source: MIOSHA/MISS/MTSD/Michigan Department of Labor & Economic Growth

TABLE 11

PROGRAM-RELATED FATALITIES
BY INDUSTRY GROUPS AND DAY OF THE WEEK
MICHIGAN 2003

INDUSTRY GROUP	DAY OF THE WEEK							
	SUN	MON	TUE	WED	THUR	FRI	SAT	TOTAL
AGRICULTURE, FORESTRY, FISHING & HUNTING		1	1	0	0	0	0	0 **2**
MINING	0	0	0	1	0	0	1	**2**
UTILITIES		0	1	0	0	0	0	0 **1**
CONSTRUCTION		0	6	6	10	1	4	0 **27**
MANUFACTURING		0	1	1	2	2	0	2 **8**
TRANSPORTATION & WAREHOUSING		0	0	1	2	1	0	0 **4**
PROFESSIONAL, SCIENTIFIC, & TECHNICAL SERV.		0	0	0	0	1	0	0 **1**
ADMIN. & SUPPORT & WASTE MGMT. & REMEDIATION SERV.		0	0	0	0	1	0	1 **2**
TRADE								
EDUCATIONAL SERV.		0	0	1	0	0	0	0 **1**

ARTS, ENTERTAINMENT, & RECREATION	0	0	0	0	0	0	2	**2**
OTHER SERVICES, (EXC. PUBLIC ADMIN.)		0	0	0	0	1	0	0	**1**
TOTAL		**1**	**9**	**9**	**15**	**7**	**4**	**6**	**51**

Source: MIOSHA/MISS/MTSD/Michigan Department of Labor & Economic Growth

TABLE 12

PROGRAM-RELATED FATALITIES BY COUNTY OF OCCURRENCE, MICHIGAN 2003

COUNTY	NUMBER OF CASES
ALLEGAN	1
ALPENA	1
BARAGA	1
BAY	1
DELTA	1
GENESEE	2
HURON	1
INGHAM	7
ISABELLA	1
KALAMAZOO	2
KENT	3
LIVINGSTON	1
MACOMB	2
MASON	1
MONROE	1
MUSKEGON	1
OAKLAND	6
SAGINAW	1
ST. JOSEPH	1
VAN BUREN	1
WASHTENAW	2
WAYNE	13

TOTALS	**51**

Source: MIOSHA/MISS/MTSD/Michigan Department of Labor & Economic Growth

PROGRAM-RELATED FATALITY INCIDENTS
BRIEF DESCRIPTIONS OF CASES BY INDUSTRY GROUPS

Agriculture, Forestry, Fishing and Hunting:

1. Employee was falling a tree. He improperly cut the tree and it fell the wrong way. He became pinned under the tree.

   Violations noted:
   Logging

2. Employee entered area where tree was being cut down to pick up branches, which resulted in being struck in the head by a tree branch.

   Violations noted:
   Personal Protective Equipment

Mining:

3. Employee was working on a dust collector unit when he became entangled in the unguarded rotating shaft of the collection hopper.

   Violations noted:
   Guards for Power Transmission

4. Two employees were performing a service operation at a crude oil storage facility. They were in process of pumping crude oil from a storage tank into a tanker trunk where it is heated to separate water and then pumped back into storage tank. The tank system had a flare stack to burn off accumulations of flammable gases. They opened the hatch on top of the tank, which produced pressure to the flare, and it went out. The unburned gases were then allowed to accumulate and migrate to a source of ignition. The employee was engulfed in the resulting explosion.

Violations noted:

Oil and Gas Drilling and Servicing
Personal Protective Equipment

Construction:

5. Employees were working in an excavation 12-13 feet deep with near vertical sides installing sewer pipe. One employee was in the excavation when the south side of the excavation caved in, completely covering the employee.

   Violations noted:

   General Rules
   Excavation, Trenching and Shoring
   Recording and Reporting of Occupational Injuries and Illnesses

Construction (Continued):

6. Victim was cold patching roadway working between two trucks. The shadow truck, which is the truck behind the work operation, moved forward and the employee was caught between the two trucks. He received fatal injuries.

   Violations noted:

   General Rules

7. Employee was operating a rough terrain forklift with the load raised. The forklift was attempting to go around a car on site and then traverse up an incline when the forklift flipped over backward and onto its side. The employee was crushed between the ground and the forklift.

   Violations noted:

   Recording and Reporting of Occupational Injuries and Illnesses
   Mobile Equipment

8. Employees were unloading windows at a job site. After a stop at one building, the employees attempted to move to another location on site. The truck became stuck. Another employee attempted to get the truck out after the driver exited and went behind the truck. When the truck got free, the employee backed up about 40 feet and then noticed co-worker lying on the ground.

   Violations noted:

   General Rules

9. Employee was working on a roof installing shingles and fell 13 feet to concrete sidewalk below. The employee received a fatal head injury.

   Violations noted:

   Fall Protection
   General Rules

10. Employees were removing a section of the jib of a crane. While removing the lower pins, the jib section fell striking the employee and pinning him to the ground crushing the employee's chest.

    Violations noted:
    General Rules
    Lifting and Digging Equipment

11. A two-man crew was installing a four-inch sewer line for a new residence that was to be built on the lot. The victim was working in the excavation connecting the sewer line when the side caved in and buried him.

    Violations noted:
    General Rules
    Personal Protective Equipment
    Excavation, Trenching and Shoring

Construction (Continued):

12. Two employees were assigned to replace a traffic light fixture in an intersection. After setting up the boom truck and traffic cones, the employees elevated the boom and extended the bucket out over the center lane of traffic. After installing new signal, they returned to the ground and one worker exited the work platform. Other employee them elevated back up to the signal. As he was completing the installation, a semi truck passed under the bucket, striking it. The worker was ejected from the bucket and fell to the ground below. The workers were not wearing any fall protection while elevated in the bucket.

    Violations noted:
    Signals, Signs, Tags, and Barricades
    Aerial Work Platforms

13. Two carpenters were setting up to install a temporary weather protection wall at the top of an escalator in a lobby area. One employee used the escalator stairs to go down to clean floor. The floor above the escalator collapsed, crushing the carpenter.

    Violations noted:
    Demolition

14. Two electrical technicians were replacing a battery for a security system. One technician unloaded a set of batteries and retrieved his tools to perform work. He was later found laying on floor with hand reaching into lower battery shelf. No personal protective equipment was being used.

    Violations noted:
    Electrical Installations

15. Employee was working from a 32-foot aluminum ladder cleaning and painting gable of two-story house. He exited the ladder and was attempting to move it when the ladder came in contact with 4800-volt overhead power line.

Violations noted:

- Fixed and Portable Ladders
- General Rules
- Recording and Reporting of Occupational Injuries and Illnesses

16. While working from elevated platform on rough terrain forklift, platform became disengaged from forklift carriage and fell to ground with victim inside.

    Violations noted:

    - General Rules
    - Scaffolds

17. Three employees were hauling gravel for new parking lot under construction. One of the drivers got stuck in the sand underneath 69,000-volt power lines. Driver raised the bed of truck up to dump some of the gravel. He then lowered the bed and other workers went to get a grader to pull him out. Driver then raised the bed again and was electrocuted when the trailer made contact with one of the power lines.

    Violations noted:

    - General Rules
    - Handling and Storage of Materials

Construction (Continued):

18. As employee was installing an exit sign from an aerial platform, he grabbed an energized 227-volt wire and was electrocuted.

    Violations noted:

    - General Rules
    - Personal Protective Equipment
    - Electrical Installations
    - Aerial Work Platforms

19. Two workers were unloading machinery from semi trailer. After releasing the binding strap, the head section fell off the trailer fatally injuring one employee.

    Violations noted:

    - General Rules
    - Handing and Storage of Materials
    - Mobile Equipment

20. Employee fell approximately 120-feet from the top of a water tower while attempting to move rigging for swing stage scaffolding.

    Violations noted:

    - General Rules
    - Scaffolds
    - Electrical Installations
    - General Duty

21. A crew of seven employees was standing up a framed wall for a residential house. The wall became heavy and fell on one employee.

    Violations noted:
    - General Duty
    - General Rules
    - Personal Protective Equipment
    - Recording and Reporting of Injuries and Illnesses

22. Owner and employees were re-roofing a house when owner fell approximately 10-feet from roof.

    Violations noted:
    - General Rules
    - Fall Protection

23. Employees were making repairs on top of water tower. One employee was found lying on ground wearing fall protection equipment.

    Violations noted:
    - General Rules
    - Handling and Storage of Materials
    - Fall Protection
    - General Duty

Construction (Continued):

24. Employee was performing demolition work at site from aerial work platform. While on platform, he became pinned between the guardrail system of the lift and an overhead water line.

    Violations noted:
    - Aerial Work Platforms

25. A framing crew was installing roof trusses. The trusses were being stored beneath energized 7200-volt electrical lines. While attempting to attach two trusses to the load, the crane made contact with the energized line, electrocuting the ground person. When the crane operator saw what was happening, he jumped off the crane and tried to help the ground person and was electrocuted himself when he made contact with ground person.

    Violations noted:
    - Lifting and Digging Equipment
    - Handling and Storage of Materials
    - Tools
    - Fall Protection
    - Recording and Reporting of Occupational Injuries and Illnesses
    - General Rules

26. Employee was raising a portable generator onto roof of building when the rough terrain forklift that was being used came in contact with the power distribution line. The employee attempted to exit the cab but was electrocuted when he stepped onto the wet muddy ground.

    Violations noted:

General Rules

27. While welding metal plating to a group of I-beams, employee went over guardrail system to complete welds when he fell approximately 24-feet to basement below. He was not wearing a safety harness or lanyard.

    Violations noted:
    Handling and Storage of Materials
    Steel and Precast Erection

28. A laborer was run over by a grader as it was being backed into garage bay.

    Violations noted:
    None

29. Two employees were overexposed to carbon monoxide while conducting spray-finishing operations at a site undergoing renovation.

    Violations noted:
    Personal Protective Equipment
    Hazardous Communication

Manufacturing:

30. Employee was spray painting basement of house being renovated when he was overcome with paint fumes/vapors.

    Violations noted:
    Personal Protective Equipment
    Respiratory Protection

31. Employee was setting up a rotary sign-making machine. The machine was not locked out. Part of the machine cycle, pinning him.

    Violations noted:
    General Provisions
    Lockout/Tagout

32. Employee was walking through building when the roof collapsed due to ice accumulation. A piece of ice came through the roof and struck him.

    Violations noted:
    General Duty

33. While performing maintenance on a machine system, employee entered machine by opening a guard and climbed into shuttle conveyor feeding the machine. System was not shut off or locked out. Operator of machine did not know employee was inside and activated the machine causing the shuttle to advance, crushing him in the pinch area between the shuttle and stationary parts of the machine.

Violations noted:
Lockout/Tagout

34. Employee was cutting steel barrels for scrap with cutting torch. When he cut into barrel previously containing Isopropyl Alcohol, the barrel exploded. He was fatally injured when the bottom of the barrel came apart striking him in the head.

Violations noted:
Welding and Cutting
Hazard Communication

35. Employee was in the process of moving coil steel when one of the coils fell, pinning him between the coils.

Violations noted:
General Duty

36. An employee was disassembling a caster roller assembly. A co-worker was standing on the floor beneath the cracked roller removing bracket bolts when part of it fell striking him in the head.

Violations noted:
General Duty

Manufacturing (Continued):

37. While making adjustments to a die in a press, the press cycled with a die block in place. The die block flew out and struck the employee in the chest.

Violations noted:
Mechanical Power Presses
Lockout/Tagout

38. A machine operator was repairing an electrical problem with his machine when he came in contact with live 440-volt wires.

Violations noted:
National Electrical Code
Electrical Safety-Related Work Practices

Transportation and Warehousing:

39. While attempting to tarp a load of asphalt in dump truck by standing on tires of truck, employee fell backwards, striking head on ground.

Violations noted:
General Duty

40. Truck driver was at the back of his truck unlatching the tailgate before dumping a load, when part of the tailgate swung open. The tailgate struck him causing him to fall backwards into pool of sludge.

    Violations noted:
    General Provisions

41. As employee was unloading lime from trailer, he climbed to the top and was standing above the tank lid when it blew open striking him. He was then thrown 15-feet to the ground below.

    Violations noted:
    General Duty
    Personal Protective Equipment

42. Employee double-stacked tote bags of beans to make more room in storage area. As he opened door, a bag fell over striking him. He fell and struck his head on concrete barrier.

    Violations noted:
    General Provisions

Arts, Entertainment, and Recreation:

43. Employee was making repairs to roller coaster. As the coaster was in operation, he was walking around the equipment to verify the repair was intact. As he was doing so, the first car struck him as it freewheeled down the track he was standing on.

    Violations noted:
    Lockout/Tagout

44. Employee was manually lighting fireworks display. Was found lying on ground by co-workers. Had been struck in the head by firework shell.

    Violations noted:
    General Duty
    Personal Protective Equipment
    Failure to Report Fatality

Utilities:

45. Worker was reading water meter on the back of a boiler central panel at apartment complex. As he leaned forward, his chest came in contact with low water pressure switch, which contained exposed live electrical parts.

    Violations noted:
    - Electrical Safety-Related Work Practices
    - Recording and Reporting of Occupational Injuries and Illnesses

Other Services:

46. Employee was spraying a two-part product used to coat truck bed liners inside of cargo van when the fumes overcame him.

    Violations noted:
    - Respiratory Protection
    - Hazard Communication
    - Failure to Report Fatality
    - Inspection and Investigation, Citations and Proposed Penalties
    - Spray Finishing Operations
    - Personal Protective Equipment

Educational Services:

47. Custodian was changing a flood light bulb 16-feet above the floor. He was standing on a 6-foot stepladder in the unopened position when he fell to the floor.

    Violations noted:
    - General Provisions

Administrative and Support and Waste Management and Remediation Services:

48. Employee was opening door on the compactor box when the hinge weld broke and the 1000-pound door fell crushing him.

    Violations noted:
    - General Duty
    - General Provisions

49. Employee was holding onto a rope tied to a tree being felled when he bumped into another employee and was not able to exit the hazard area before the falling tree struck him.

    Violations noted:
    - Personal Protective Equipment
    - Tree Trimming and Removal
    - Recording and Reporting of Occupational Injuries and Illnesses

Professional, Scientific, and Technical Services:

50. Employee was repairing a tractor that was being supported by an overhead hoist. The tractor fell on top of him.

    Violations noted:

    Recording and Reporting of Occupational Injuries and Illnesses
    General Provisions